

09/919,505 filed 07/31/2001  
Walter Ausserer, et al.  
Reply to Office Action of 03/01/2006

### REMARKS/ARGUMENTS

Claims 1–27 are pending in the above-captioned application. All of these claims stand rejected. With this paper, claims 1, 5, 10, 14, and 18–26 are amended. No new matter was added with the amendment.

#### I. Claim Objections

Claim 1 was objected to. Applicants thank the Examiner for treating the claim as intending a “separation channel” rather than a “separation conduit.” Applicants have amended claim 1 (as well as claims 5, 10, and 14) to recite a separation “channel.”

#### II. Claim rejections under 35 U.S.C. § 103(a) as being unpatentable over Dubrow et al. (WO 98/49548) in view of Soper et al. (US 5,846,727)

Claims 1–8, 10–18, 26, and 27 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dubrow et al. (WO 98/49548) in view of Soper et al. (US 5,846,727). The rejection of these claims is respectfully traversed. To warrant rejection under 35 U.S.C. § 103(a), all the claim limitations must be taught or suggested by the prior art. See MPEP § 2142.

At a minimum, the combined references do not teach “transporting a second sample material into the sample loading channel, wherein the force used to transport the second sample material into the sample loading channel displaces the portion of the separation matrix from the separation channel and replaces the displaced portion of the separation matrix with additional separation matrix.” The underlined limitation has been added to claim 1 to more particularly point out and distinctly claim Applicants’ invention. Support for the limitation can be found on page 21, lines 18–24, as well as in previously presented claim 18. Claim 18 has been amended to prevent a duplication of the limitation. Thus, no new matter has been added by the amendment of the claim.

The Examiner has pointed to Figure 1C, Panels II and III, of Dubrow et al. to show that the force used to transport the second sample into the sample loading channel (identified as channel 206 of Dubrow et al.) “will displace separation matrix from the portion of the separation channel lying at its intersection with the injection channel ....” Applicants

09/919,505 filed 07/31/2001

Walter Ausserer, et al.

Reply to Office Action of 03/01/2006

acknowledge that it would be possible for this to occur. However, it does not appear to Applicants that the depicted action could, with the same force, replace the displaced portion of the separation matrix with additional separation matrix. Movement of material as indicated by the arrow in Figure 1C, Panel II, would either A) force apart the separation matrix contained in channel 100 of Dubrow et al., pushing it to either side of the highlighted material in channel 102; or B) push the displaced portion of the separation matrix ahead of the highlighted material into channel 102. In option A, separation matrix would be forced out of at least one end of separation channel 100. In option B, the displaced portion of the separation matrix would be replaced with highlighted material. Thus, in neither case would the action of displacing separation matrix from the channel intersections (or the force responsible for this action) cause the displaced separation matrix to be replaced, even if a source of additional separation matrix were available.

Soper et al. teach, in column 13, lines 27–31, “Filling and emptying the separation column for reconditioning can be accomplished via conventional fused silica capillaries attached to the ends of the microchannel etched in the microchip. The capillary tips may be placed into a high pressure vessel filled with a regenerating gel solution.” It does not appear to Applicants that “the force used to transport the second sample material into the sample loading channel,” as recited by Applicants, could be the same as that used to pressure the vessel filled with a regenerating gel solution.

Thus, the combined references of Dubrow et al. and Soper et al. do not teach all of the limitations of Applicants’ amended claim 1. Withdrawal of the rejection of claim 1 as being unpatentable over Dubrow et al. in view of Soper et al. is, therefore, respectfully requested.

Claims 2–8, 10–18, 26, and 27 depend directly or indirectly from claim 1. Any claim depending from a nonobvious claim is also nonobvious. See MPEP § 2143.03 and *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Therefore, dependent claims 2–8, 10–18, 26, and 27 are nonobvious. Withdrawal of the rejection of these claims as being unpatentable over Dubrow et al. in view of Soper et al. is, therefore, respectfully requested.

09/919,505 filed 07/31/2001  
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III. Claim rejection under 35 U.S.C. § 103(a) as being unpatentable over Dubrow et al. (WO 98/49548) in view of Soper et al. (US 5,846,727) and further in view of Taylor et al. (US 6,375,817)

Claim 9 was rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dubrow et al. (WO 98/49548) in view of Soper et al. (US 5,846,727) as applied to claim 2 and further in view of Taylor et al. (US 6,375,817).

As demonstrated above, Applicants' amended claim 1 is nonobvious. Claim 9 depends indirectly from claim 1. As any claim depending from a nonobvious claim is also nonobvious, dependent claim 9 is nonobvious. Withdrawal of the rejection of claim 9 as being unpatentable over Dubrow et al. in view of Soper et al. and further in view of Taylor et al. is, therefore, respectfully requested.

IV. Claim rejections under 35 U.S.C. § 103(a) as being unpatentable over Dubrow et al. (WO 98/49548) in view of Adourian et al. (US 6,207,031)

Claims 1-8, 10-18, 26, and 27 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dubrow et al. (WO 98/49548) in view of Adourian et al. (US 6,207,031). The rejection of these claims is respectfully traversed.

As demonstrated above, Dubrow et al. do not teach "transporting a second sample material into the sample loading channel, wherein the force used to transport the second sample material into the sample loading channel displaces the portion of the separation matrix from the separation channel and replaces the displaced portion of the separation matrix with additional separation matrix." This teaching is also not provided by Adourian et al., who teach the benefits of replacing a separation matrix but do not teach using the force that transports sample material into a sample loading channel to displace and replace the separation matrix.

Thus, claim 1 is nonobvious over Dubrow et al. in view of Adourian et al. Withdrawal of the rejection of claim 1 as being unpatentable over Dubrow et al. in view of Adourian et al. is, therefore, respectfully requested. Claims 2-8, 10-18, 26, and 27 depend directly or indirectly from amended independent claim 1. As any claim depending from a nonobvious claim is also nonobvious, dependent claims 2-8, 10-18, 26, and 27 are nonobvious. Withdrawal of the rejections of these claims as being unpatentable over Dubrow et al. in view of Adourian et al. is, therefore, respectfully requested.

09/919,505 filed 07/31/2001  
Walter Ausserer, et al.  
Reply to Office Action of 03/01/2006

V. Claim rejection under 35 U.S.C. § 103(a) as being unpatentable over Dubrow et al. (WO 98/49548) in view of Adourian et al. (US 6,207,031) and further in view of Taylor et al. (US 6,375,817)

Claim 9 was rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dubrow et al. (WO 98/49548) in view of Adourian et al. (US 6,207,031) as applied to claim 1 and further in view of Taylor et al. (US 6,375,817).

As demonstrated above, Applicants' amended claim 1 is nonobvious. Claim 9 depends indirectly from claim 1. As any claim depending from a nonobvious claim is also nonobvious, dependent claim 9 is nonobvious. Withdrawal of the rejection of claim 9 as being unpatentable over Dubrow et al. in view of Adourian et al. and further in view of Taylor et al. is, therefore, respectfully requested.

VI. Claim rejections under 35 U.S.C. § 103(a) as being unpatentable over Dubrow et al. (WO 98/49548) in view of Adourian et al. (US 6,207,031) and further in view of Nakajima et al. (US 4,486,311)

Claims 19–25 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dubrow et al. (WO 98/49548) in view of Adourian et al. (US 6,207,031) as applied to claim 18 and further in view of Nakajima et al. (4,486,311). The rejection of these claims is respectfully traversed.

As shown above, Applicants' amended claim 1 is nonobvious. Claims 19–25 depend directly or indirectly from claim 1. As any claim depending from a nonobvious claim is also nonobvious, dependent claims 19–25 are nonobvious. Withdrawal of the rejection of claims 19–25 as being unpatentable over Dubrow et al. in view of Adourian et al. and further in view of Nakajima et al. is, therefore, respectfully requested.

Applicants wish to point out that the amendments to claims 19–26 were made to change dependency of these claims from claim 18 to claim 1, which now includes the action of replacing the displaced portion of the separation matrix within the separation conduit. The term “replaced” has been amended to “displaced” in these claims. Support for this amendment can be found on page 21, lines 25–30. Thus, no new matter has been added by the amendment.

09/919,505 filed 07/31/2001

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Conclusion

For the foregoing reasons, Applicants believe all the pending claims are in condition for allowance and should be passed to issue. If the Examiner feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned attorney.

Respectfully submitted,



Ann C. Petersen  
Reg. No. 55,536

CALIPER LIFE SCIENCES, INC.  
605 Fairchild Drive  
Mountain View, CA 94043  
Direct: 650-623-0667  
Fax: 650-623-0504  
ann.petersen@caliperLS.com

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Signed: Debra B. Burns